

REMARKS

Application Amendments

Claims 1-10 are pending in this application and all claims stand rejected.

Currently, Claims 1 and 10 are further amended in order to define the composition comprising an Acylate/C10-30 Alkyl Acrylate Crosspolymer. Support for this amendment can be found in the specification at page 5, first paragraph, lines 4-5.

Specification

Applicant has been requested to submit a clean and readable copy of the specification, as it has been noted that this is necessary because there are some markings through some of the text. Therefore, Applicants now submit a clean copy of the specification.

It is believed these changes do not involve any introduction of new matter. Consequently, entry of these changes is believed to be in order and is respectfully requested.

Art Rejections

35 U.S.C. § 103(a)

The rejection of Claims 1-10 under 35 U.S.C. § 103(a) as being unpatentable over Karlen et al (US Patent No. 6,004,545) in view of Hitchen (US Patent No. 6,106,816), Kang et al (WO 97/23194) and Rath et al (US Patent No. 5,993,792) has been maintained for reasons of the record in the office action mailed 10/25/04 and those set forth in the present office action. Applicants respectfully traverse this rejection.

The Examiner has asserted that while Karlen et al. teaches hair cleansing compositions comprising copolymers of carboxylic acid such as Carbopol 1342, amphoteric conditioning polymers, aqueous carriers and silicon compounds, Karlen et al does not teach a humectant, a viscosity modifier, a visible particle, an UV absorber, an optical brightener, and herbal extract and conditioning agents. The Examiner asserts that it would have been prima facie obvious to a person of skill in the art to add Merquat 100 to the composition of Karlen et al to achieve the benefit of an additional conditioning agent in view of Hitchen and to further add visible particles, a humectant and viscosity modifiers of Kang et al to the composition of Karlen et al to achieve the benefit of stabilizing and ensuring the homogenous dispersion of a hair cleansing composition.

Karlen et al disclosing hair cleansing compositions containing from 0.1 to 30 percent by weight of a dimethylsiloxanemethyl-3-mercapto-propylsiloxane/isobutylmethacrylate copolymer and from 3 to 50 percent by weight of at least one detergent surfactant. The composition can also contain dimethylsiloxane and glycol copolymers and or polydimethylsiloxanes with or without hydroxy terminal groups. This composition has a definite fixing effect as well as satisfactory hair cleaning action.

As the Examiner has previously pointed out, Karlen et al et al does not disclose or suggest the use of a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000; which the present invention comprises, as previously amended.

The benefit of the present invention is due to acrylic acid/alkyl acrylate copolymers which, together with the selection of a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000, provides favorable aesthetic benefits, conditioning benefits such as smoothness and softness, and leaves the hair and hands with clean feeling. However, Karlen et al does not disclose or suggest the benefit of the present invention by the selection of a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000.

Kang et al relates to shampoo-conditioning compositions. Kang et al discloses in Example 1 a shampoo composition comprising Unishpere, dimethicone and some polymers such as PVM/MA Decadiene Crosspolymer. Kang et al also discloses shampoo compositions containing Carbomer in comparative examples, as well as humectants and viscosity modifiers such as thickeners in the Examples and on page 13 lines 20-21. However, Kang does not disclose a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000. All of the Examples of Kang et al comprise propylene glycol, hexylene glycol, or pyrrolidone carboxylic acid. The broad disclosure of "humectants" on page 13, line 21 specifically refers to the making of Comparative Examples 1-4, which specifically comprise pyrrolidone carboxylic acid and propylene glycol. Further, Kang et al would clearly not lead or motivate one of skill in the art to a leave-in-conditioner compositions comprising a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000, as required in the present invention.

Applicants have surprisingly found that a humectant provides the leave-in-conditioner composition with conditioning benefits wherein a polyethylene glycol having a molecular weight of up to 1000, provides less stickiness when compared to low molecular weight humectants, such as propylene glycol, as disclosed by Kang et al. When compared to polyethylene glycols having a molecular weight higher than 1000, the present invention's humectant provides improved transparency and solubility.

In support of this argument, Applicants now submit a Declaration of Takashi Sako under 37 CFR 1.132. Test were performed to compare the non-sticky feel performance of a leave-on-conditioner composition comprising polyethylene glycol (PEG-4) to a leave-on-conditioner composition comprising a humectant which is the propylene glycol. Examples A and B indicate that polyethylene glycol significantly reduces sticky feel as compared to propylene glycol. Thus, use of polyethylene glycol is beneficial in creating a non-sticky feel without tackiness on hands.

Further, the sample compositions A & B were evaluated using the combing tester per the Declaration. The data in Table 3 of the 1.132 Declaration demonstrate that the superiority of selected humectant (PEG-4) compared to other humectant (propylene glycol) is shown. As shown in Table 3, Formulation B containing PEG-4 has significantly reduced hair friction compared to the Formulation A containing propylene glycol. Thus, use of polyethylene glycol is beneficial in creating smooth feel of hair.

Therefore, the Applicants have found surprising results to demonstrate that one of skill in the art cannot interchange one humectant for another and obtain the same results. Clearly, Kang does not disclose a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000. All of the Examples of Kang et al comprise propylene glycol, hexylene glycol, or pyrrolidone carboxylic acid. The broad disclosure of "humectants" on page 13, line 21 specifically refers to the making of Comparative Examples 1-4, which specifically comprise pyrrolidone carboxylic acid and propylene glycol. Further, Kang et al would clearly not lead or motivate one of skill in the art to a leave-in-conditioner composition comprising a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000, as required in the present invention.

Further, as disclosed on page 14, lines 25-33, Kang et al teaches that the comparative examples, which use the Carbopol 1342, are less stable when compared to the Kang et al examples using the PVM/MA Decadiene Crosspolymer. Therefore, Kang et al is further teaching away from the use of the Carbopol-1342 due to less stability. Clearly, one of skill in the art would not be led to present invention, by the teachings of Kang et al in combination with the other references. Therefore, one of skill in the art would not be lead by the teaching of Kang et al to combine the teachings of Karlen et al, Hitchen, or Rath et al because one would not have a reasonable expectation to succeed in achieving or improving the properties of the composition.

Further, the broad teaching in Hitchen disclosing the use of cationic polymeric conditioning agents in shampoo compositions and the further general teaching in Rath et al of the use of optical brighteners, herbal extracts and UV absorbers would not led one of skill in the art to the leave-in conditioners of the present invention.

Specifically, Hitchen discloses shampoo compositions comprising cationic polymeric conditioning agents such as Merquat 100 and Merquat 550 (column 4, line 37 and column 5, lines 8-10). The Examiner has asserted that it would have been prima facie obvious to a person of skill in the art to add Merquat 100 to the composition of Karlen et al to achieve the beneficial effect of an additional conditioning agent in view of Hitchen. However, Applicants have taught, as found on page 38, lines 1-6, that additional conditioning agents are selected according to the compatibility with other components, and the desired characteristic of the product. For example, components of cationic nature (emphasis added), will be included in an amount which would not cause separation in view of the essential components of anionic and amphoteric nature. Applicants have found cationic polymers, such as Merquat 100 and Merquat 550 can negatively interact with an acrylic acid/alkyl acrylate copolymers, as defined in the present invention. Applicants have found that the amphoteric conditioning polymers have better compatibility with the acrylic acid/alkyl acrylate copolymers, than do the cationic polymers such as Merquat 100 and Merquat 550, as disclosed by Hitchen. Therefore, one of skill in the art would not be led to the teachings of Hitchen due to the cationic nature of the conditioning agents which can negatively interact with an acrylic acid/alkyl acrylate copolymers.

Further, one of skill in the art would not be lead by the long list of other cationic conditioning agents found in Hitchen to select a humecant comprising a polyethylene glycol having a molecular weight of up to about 1000, wherein the unexpected results of the 1.132 Declaration have been found i.e, polyethylene glycol significantly reduces sticky feel as compared to propylene glycol beneficial in creating a non-sticky feel without tackiness on hands and significantly reduced hair friction compared to the formulation A containing propylene glycol. In particular, not without undue experimentation.

Applicants respectfully submit that Karlen et al does not meet the limitations set forth in the present invention and further would not render the present invention as obvious when combined with the teachings of Kang et al, Hitchen and Rath et al. None of the references teach a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000, which is a component of the present invention, as now amended. Applicants have submitted the 1.132 Declaration to provide further supporting data that demonstrates that that polyethylene glycol significantly reduces sticky feel as compared to propylene glycol. Thus, use of polyethylene glycol is beneficial in creating a non-sticky feel without tackiness on hands.

Further, the data in Table 3 of the 1.132 Declaration demonstrate that the superiority of selected humectant (PEG-4) compared to other humectant (propylene glycol). As shown

in Table 3, Formulation B containing PEG-4 has significantly reduced hair friction compared to the Formulation A containing propylene glycol. Thus, use of polyethylene glycol is beneficial in creating smooth feel of hair.

Therefore, one of ordinary skill in the art would not have been lead to modify the compositions of Karlen et al by adding or combining the “further comprising” ingredients as disclosed in Kang et al, Hitchen and Rath et al.

No Prima Facie Case

The Examiner has asserted that the combination of agents, each of which is known to be useful individually for the same purpose, into a single composition useful for the very same purpose, here, hair cleansing, is prima facie obvious. At least additive therapeutic effects would be reasonably expected. However, Applicants have submitted a 1.132 Declaration which demonstrates that the selection of a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000, provides unexpected results.

In order to establish a prima facie cast of obviousness, the Examiner must show that (1) there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings, (2) there is a reasonable expectation of success, and (3) all of the limitations of the claims are taught or suggested in the prior art (M.P.E.P. § 2143).

Applicant respectfully traverses this obvious rejection as Karlen et al in view of Kang et al, Hitchen, and Rath et al does not establish a prima facie case of obviousness because they do not teach or suggest all of the Applicant’s claim limitations. None of the references alone or in combination teach a leave-in-conditioner comprising the combination of a (1) an acrylic acid/alkyl acrylate copolymers; (2) an amphoteric conditioning polymer; (3) an aqueous carrier; (4) a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000; and wherein the hair conditioning composition is a leave-on-conditioner composition, as required in the present invention.

In particular, as stated above, specifically none of the references, alone or combination teaches a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000, which provides the surprising results of the 1.132 Declaration.

Further, none of the references, alone or in combination teach a humectant comprising a polyethylene glycol having a molecular weight of up to about 1000. Therefore, there is no prima face case of obviousness since none of the references, either alone or when combined, teach or suggest all of the Applicant's claim limitations with regard to the claimed requirements.

Even if a *prima facie* case has been established, the presumption of obviousness has been overcome by a showing of unexpected results.

The 1.132 Declaration of Takashi Sako is sufficient to establish unexpected results. It was unexpected that these that polyethylene glycol significantly reduces sticky feel as compared to propylene glycol. Thus, use of polyethylene glycol is beneficial in creating a non-sticky feel without tackiness on hands.

Further, it was unexpected that the data in Table 3 of the 1.132 Declaration demonstrate that the superiority of selected humectant (PEG-4) compared to other humectant (propylene glycol) is shown wherein PEG-4 has significantly reduced hair friction compared to the formulation A containing propylene glycol. Thus, use of polyethylene glycol is beneficial in creating smooth feel of hair.

In light of the arguments presented herein, it is respectfully submitted that the rejection of the claims under 35 U.S.C. § 103(a) be withdrawn.

Conclusions

Applicants have made an earnest effort to place their application in proper form and distinguish their claimed invention from the prior art which was applied in the December 15, 2005 Office Action. WHEREFORE, consideration of this application, withdrawal of the rejections under 35 U.S.C § 103(a), and allowance of Claims 1-10 are respectfully requested.

Respectfully submitted,

THE PROCTER & GAMBLE COMPANY

By 
Signature

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